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## **Thailand**

Sugar

**Annual** 

2006

Approved by:

Russ Nicely, Agricultural Attaché U.S. Embassy, Bangkok

Prepared by:

Ponnarong Prasertsri, Agricultural Specialist

## **Report Highlights:**

MY 2007 sugar production will likely recover from earlier setbacks in anticipation of bumper sugarcane crops due to acreage expansion and yield recovery. Sugar exports are forecast to rebound due to more exportable supplies. However, the domestic sugar shortage is expected to persist unless world sugar prices ease, or the Thai sugar market is liberalized.

Includes PSD Changes: Yes Includes Trade Matrix: Yes Annual Report Bangkok [TH1]

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## **Executive Summary**

MY 2007 sugar production is forecast to recover in anticipation of bumper sugarcane crops, resulting from acreage expansion and yield improvement assuming normal weather conditions. Most sugarcane is still used for sugar production as cane/molasses-based ethanol plants are still working out trial runs of sugarcane-based ethanol production. In MY 2008 when ethanol production capacity will reach around 4-5 million liters/day, sugarcane is expected to be used for ethanol production, given continued bumper sugarcane crops. As a result, prices of sugarcane will likely remain at high levels in anticipation of increased domestic and export demand for sugar and molasses. Thai sugar exports will likely rebound in MY 2007 following more exportable supplies from the anticipated bumper sugarcane crops. However, despite ample domestic sugar supplies for domestic consumption, and the recent government approval of an increase in the controlled domestic sugar prices and other policy adjustments, the current domestic sugar shortage problem will persist as long as the controlled domestic prices stay lower than world sugar prices.

## 1. Sugarcane

## **PSD Table**

# Country Thailand Commodity Sugar Cane for Centrifugal (1000 HA)(1000 MT)

|                       | _20      |           | _        | 06        | _ 2007   |           |  |
|-----------------------|----------|-----------|----------|-----------|----------|-----------|--|
|                       | Revised  |           | Estir    | nate      | Forecast |           |  |
|                       | USDA     | Post      | USDA     | Post      | USDA     | Post      |  |
|                       | Official | Estimate[ | Official | Estimate[ | Official | Estimate[ |  |
|                       | [Old]    | New]      | [Old]    | New]      | [Old]    | New]      |  |
| Market Year Begin     | 12/2     | 2004      | 12/2     | 2005      | 12/2006  |           |  |
| Area Planted          | 1050     | 1050      | 1000     | 1000      | 0        | 1070      |  |
| Area Harvested        | 990      | 990       | 950      | 950       | 0        | 1030      |  |
| Production            | 47820    | 47820     | 40000    | 46700     | 0        | 57000     |  |
| TOTAL SUPPLY          | 47820    | 47820     | 40000    | 46700     | 0        | 57000     |  |
| Utilization for Sugar | 47820    | 47820     | 40000    | 46700     | 0        | 57000     |  |
| Utilizatn for Alcohol | 0        | 0         | 0        | 0         | 0        | 0         |  |
| TOTAL UTILIZATION     | 47820    | 47820     | 40000    | 46700     | 0        | 57000     |  |

#### 1.1 Production

MY 2007 sugarcane production is forecast to surge to 57 million tons, up significantly from the drought-damaged crops of the past three years. The anticipated bumper crop reflects the acreage expansion due to attractive farm prices, currently at around 1,100 – 1,200 baht/ton (roughly U.S.\$ 28-30/MT), far above the government support prices. Also, average yields are expected to recover to around 8.5 ton/rai (53 tons/hectare), as compared to the 7-8 ton/rai yield (44-50 tons/hectare) over the past three years, assuming normal weather conditions. In the best case scenario, average yield will likely reach 9 tons/rai (56 tons/hectare), with a corresponding sugarcane production between 60-70 million tons.

MY 2006 sugarcane production is revised upward in response to the better-than expected weather conditions in the central plain. Sugarcane production in the central plain, accounting for about 36 percent of total production, will likely increase by 10 percent to around 16-17 million tons. However, total production is expected to decline for the third consecutive year due to drier weather conditions in the major growing areas in the northeast, which accounted for about 40 percent of total planted area. Sugarcane production in the northeast will likely decline by 16 percent to around 15-16 million tons. The average extraction rate of cane for sugar in MY 2006 is expected at around 102-103 kgs/ton of cane, down significantly from the previous year's level of 108.5 kgs/ton of cane, in response to too much rain before the harvest.

#### 1.2 Consumption

All sugarcane is used for sugar production. The use of sugarcane for ethanol production will likely remain limited due to tight supplies of sugarcane and the more attractive sugar prices. One sugar mill in the northeast is currently in the process of test running sugarcane-based ethanol production for MY 2006, with a production capacity of around 150,000 liters/day. However, ethanol production will be mainly produced from molasses during MY 2006 – MY 2007. By the end of CY 2006, total ethanol production capacity will likely reach 1 million liter/day, and is expected to increase to 3-4 million liters/day by the end of CY 2007. Around

5 million tons of cane will likely be used for ethanol production in MY 2008 assuming a strong recovery in cane production and lower global sugar prices.

At present, Thai sugar mills are running at approximately 50-60 percent of capacity due to drought-reduced sugarcane production. Capacity utilization will likely recover to the normal average of around 60-70 percent in MY 2007 in anticipation of bumper sugarcane crops. Also, the average extraction rate of cane for sugar is expected to recover from the previous year, assuming normal weather conditions.

## 1.3 Policy

The Government set MY 2006 minimum prices for sugarcane at a record 800 baht/ton (roughly U.S.\$ 21/MT, ex-factory prices), up significantly from the previous year, mainly due to the surge in world sugar prices. Also, the Government repealed the cabinet approval (dated July 22, 2003) of the five-year plan (MY 2004 - MY 2008) to limit sugarcane production at 65 million tons (TH4043) because it is inconsistent with the government plan to promote the use of sugarcane and molasses for ethanol production. Domestic sugar production coincidentally dropped since MY 2004 due to lasting drought over the past three years. The contraction created uncertainty for ethanol producers who have approval to produce cane/molasses-based ethanol up to a total production capacity of around 1.2 million liters/day by the end of CY 2007 (beginning of MY 2008). According to government policy on ethanol production, there will be 24 ethanol plants with total production capacity of around 4.7 million liters/day by the end of CY 2009 (beginning of MY 2010). Four of these plants now supply molasses-based ethanol (capacity of around 400,000 liters/day) to domestic oil refineries for gasohol production, a mixture of 10 percent ethanol and 90 percent regular petrol. Ethanol is used to replace imported Methyl Tertiary Butyl Ether (MTBE) in gasoline. By the end of CY 2006 (beginning of MY 2007) when all MTBE is to be replaced by ethanol,

Table: Registered Ethanol Manufacturers in Thailand, as of January 10, 2006

| Industry                  | Location            | Rawmaterial      |        |         |         |                | Capacity (liter/d | ay)       |           |           |           |
|---------------------------|---------------------|------------------|--------|---------|---------|----------------|-------------------|-----------|-----------|-----------|-----------|
|                           |                     |                  | 2003   | 2004    | 2005    | 2006           | 2007              | 2008      | 2009      | 2010      | 2011      |
| 1 Ponwilai                | Ayudhaya            | Molasses         | 25,000 | 25,000  | 25,000  | 25,000         | 25,000            | 25,000    | 25,000    | 25,000    | 25,000    |
| 2 Thai Alcohol            | Nakornprathom       | Molasses         |        | 100,000 | 100,000 | 100,000        | 100,000           | 100,000   | 100,000   | 100,000   | 100,000   |
| 3 Thai Agro               | Supanburi           | Molasses         |        |         | 150,000 | 150,000        | 150,000           | 150,000   | 150,000   | 150,000   | 150,000   |
| 4 Thai Nguan Ethanol      | Khonkean            | Tapioca          |        |         |         | 130,000        | 130,000           | 130,000   | 130,000   | 130,000   | 130,000   |
| 5 ITA                     | Rayong              | Tapioca          |        |         |         | 150,000        | 500,000           | 500,000   | 500,000   | 500,000   | 500,000   |
| 6 Khonkean Alcohol        | Khonkean            | Cane/Molasses    |        |         |         | 100,000 (Jan.) |                   |           |           |           |           |
|                           |                     |                  |        |         |         | 150000 (Dec.)  | 150,000           | 150,000   | 150,000   | 150,000   | 150,000   |
| 7 Raem-udom Ethanol       | Nhongbualampoo      | Cane/Moalsses    |        |         |         |                | 200,000           | 200,000   | 200,000   | 200,000   | 200,000   |
| 8 Thai Sugar Ethanol      | Kanchanaburi        | Cane/Moalsses    |        |         |         |                | 100,000           | 200,000   | 200,000   | 200,000   | 200,000   |
| 9 Petro Green             | Supanburi           | Cane/Moalsses    |        |         |         |                | 200,000           | 200,000   | 200,000   | 200,000   | 200,000   |
| 10 Petro Green            | Chaiyapoom          | Cane/Moalsses    |        |         |         | 200,000 (Dec.) | 200,000           | 200,000   | 200,000   | 200,000   | 200,000   |
| 11 Thai Ruangruong Energy | Saraburi            | Cane/Moalsses    |        |         |         |                | 120,000           | 120,000   | 120,000   | 200,000   | 200,000   |
| 12 Thai Ruangruong Energy | Petchaboon          | Cane/Moalsses    |        |         |         |                |                   | 120,000   | 120,000   | 120,000   | 200,000   |
| 13 E.S. Power             | Srakaew             | Tapioca/Molasses |        |         |         |                | 150,000           | 150,000   | 150,000   | 150,000   | 150,000   |
| 14 N.Y. Ethanol           | Nakornratchasima    | Tapioca/Molasses |        |         |         |                | 150,000           | 150,000   | 150,000   | 150,000   | 150,000   |
| 15 Ratchaburi Ethanol     | Ratchaburi          | Tapioca/Molasses |        |         |         |                | 150,000           | 150,000   | 150,000   | 150,000   | 150,000   |
| 16 K.I. Ethanol           | Nakornratchasima    | Cane/Moalsses    |        |         |         |                | 100,000           | 100,000   | 100,000   | 100,000   | 100,000   |
| 17 Ang-wieng Industry     | Nakornratchasima    | Cane/Moalsses    |        |         |         |                | 160,000           | 160,000   | 160,000   | 160,000   | 160,000   |
| 18 Thai Sugar Ethanol     | Kampangpet          | Tapioca/Cane     |        |         |         |                |                   |           | 200,000   | 200,000   | 200,000   |
| 19 Somdej                 | Udonthani           | Tapioca          |        |         |         |                | 200,000           | 200,000   | 200,000   | 200,000   | 200,000   |
| 20 Fha-kwantip            | Prajinburi          | Tapioca          |        |         |         | 60,000 (Dec.)  | 120,000           | 120,000   | 120,000   | 120,000   | 120,000   |
| 21 Siam Ethanol           | Chaiyapoom          | Tapioca          |        |         |         |                | 100,000           | 100,000   | 100,000   | 100,000   | 100,000   |
| 22 Picnic Ethanol         | Chachengsaw         | Tapioca          |        |         |         |                | 250,000           | 500,000   | 500,000   | 500,000   | 500,000   |
| 23 Boonanek               | Nakornratchasima    | Tapioca          |        |         |         |                | 600,000           | 600,000   | 600,000   | 600,000   | 600,000   |
| 24 Burirum Ethanol        | Burirum             | Tapioca/Molasses |        |         |         |                | 100,000 (Jun.)    |           |           |           |           |
|                           |                     |                  |        |         |         |                | 200,000 (Dec.)    | 200,000   | 200,000   | 200,000   | 200,000   |
| Total Capacity            | Beginning of the Ye | ear              | 25,000 | 125 000 | 275,000 | 855,000        | 3,955,000         | 4,525,000 | 4,725,000 | 4,805,000 | 4,885,000 |
|                           | End of the Year     |                  | 25,000 | 125,000 | 213,000 | 965,000        | 4,055,000         | 4,525,000 | 4,725,000 | 4,005,000 | 4,005,000 |

Source: Ministry of Energy

the demand for ethanol will reach 1 million liters/day and is forecast to increase to around 4 million liters/day by the end of CY 2007 (beginning of MY 2008). Half of domestic ethanol supplies will likely be produced from cane/molasses, and the balance is expected to be tapioca-based ethanol. At present, ethanol consumption has increased significantly but domestic ethanol production can supply only around 30 percent of total consumption. The Government allows ethanol imports in order to fulfill this shortfall. In order to encourage local ethanol production, domestic prices of ethanol are set to reach higher to 23 baht/liter (roughly U.S.\$ 58 cents/liter), as compared to 12.75 baht/liter (roughly U.S.\$ 33 cents/liter) for the previous year.

## 2. Sugar

## **PSD Table**

# Country Thailand Commodity Sugar, Centrifugal

(1000 MT)

| -                     | 20       | 05        | 20       | 06        | 20       | 07        |
|-----------------------|----------|-----------|----------|-----------|----------|-----------|
|                       | Rev      | ised      | Estir    | nate      | Fore     | ecast     |
|                       | USDA     | Post      | USDA     | Post      | USDA     | Post      |
|                       | Official | Estimate[ | Official | Estimate[ | Official | Estimate[ |
|                       | [Old]    | New]      | [Old]    | New]      | [Old]    | New]      |
| Market Year Begin     | 12/2     | 2004      | 12/2     | 005       | 12/2     | 2006      |
| Beginning Stocks      | 1215     | 1215      | 732      | 1217      | 262      | 977       |
| Beet Sugar Production | 0        | 0         | 0        | 0         | 0        | 0         |
| Cane Sugar Production | 5187     | 5187      | 4330     | 4810      | 0        | 6200      |
| TOTAL Sugar           | 5187     | 5187      | 4330     | 4810      | 0        | 6200      |
| Production            |          |           |          |           |          |           |
| Raw Imports           | 0        | 0         | 0        | 0         | 0        | 0         |
| Refined Imp.(Raw Val) | 0        | 0         | 0        | 0         | 0        | 0         |
| TOTAL Imports         | 0        | 0         | 0        | 0         | 0        | 0         |
| TOTAL SUPPLY          | 6402     | 6402      | 5062     | 6027      | 262      | 7177      |
| Raw Exports           | 1630     | 1647      | 1200     | 1300      | 0        | 1800      |
| Refined Exp.(Raw Val) | 1990     | 1468      | 1500     | 1600      | 0        | 2100      |
| TOTAL EXPORTS         | 3620     | 3115      | 2700     | 2900      | 0        | 3900      |
| Human Dom.            | 2050     | 2070      | 2100     | 2150      | 0        | 2250      |
| Consumption           |          |           |          |           |          |           |
| Other Disappearance   | 0        | 0         | 0        | 0         | 0        | 0         |
| Total Disappearance   | 2050     | 2070      | 2100     | 2150      | 0        | 2250      |
| Ending Stocks         | 732      | 1217      | 262      | 977       | 0        | 1027      |
| TOTAL DISTRIBUTION    | 6402     | 6402      | 5062     | 6027      | 0        | 7177      |

### 2.1 Production

MY 2007 sugar production is forecast to recover from its contraction over the past three years in anticipation of bumper sugarcane crops and a recovery of the average extraction rate of cane for sugar to around 108 kgs./ton of cane, as compared to a low extraction rate of around 102 - 103 kgs./ton of cane for MY 2006. Also, supplies of molasses, a by-product of sugar production, are expected to regain their normal average level of around 2.5 - 3.0 million tons. However, domestic price of molasses will likely remain high due to increasing demand from cane/molasses-based ethanol manufacturers. All of them are also sugar millers who are expected to utilize most sugarcane for sugar production due to current high sugar prices.

Table: Thailand's Sugar and Molasses Yield and Prices

|                                   | MY 2004 | MY 2005 | MY 2006    | MY 2007    |
|-----------------------------------|---------|---------|------------|------------|
|                                   |         |         | (Estimate) | (Forecast) |
| Yield per metric ton of cane      |         |         |            |            |
| Sugar (kg.)                       | 108.71  | 108.49  | 102.92     | 108.00     |
| Molasses (kg.)                    | 45.51   | 47.29   | 45.1       | 48.0       |
| Farm price (ex-factory): Baht/ton | 465     | 620     | 800        | 800        |
| Wholesale prices                  |         |         |            |            |
| Sugar (Baht/100 kg.)              | 1,177   | 1,177   | 1,498      | 1,498      |
| Molasses (Baht/ton)               | 1,000   | 1,800   | 4,000      | 3,800      |

MY 2006 sugar production is revised upward due to the better-than-expected sugarcane crops in the central plain. However, sugar production is expected to shrink for the third consecutive year due to a low extraction rate of cane for sugar. Also, the average Cane Commercial Sugar (CCS) will likely decline to 11.6 percent, compared to 12.2 percent in the previous year, in response to unfavorable weather conditions. In addition, cost of sugar production is expected to increased significantly because the market prices of sugarcane reportedly surged to around 1,100 - 1,200 baht/ton (roughly U.S.\$ 28-30/MT) due to drought, compared to the government minimum prices of 800 baht/ton (roughly U.S.\$ 20/MT). Molasses production is also expected to decline to 2.1 million tons, far below the normal average production, leading to a surge in molasses prices to around 4,000 bath/ton (roughly U.S.\$ 100/MT) due to strong demand from cane/molasses-based ethanol plants.

### 2.2 Consumption

MY 2006 and MY 2007 sugar consumption are forecast to continue the upward trend both in household and industrial use in line with the economic expansion. Also, the Government is expected to increase the allocation of domestic sugar production for domestic consumption to around 2.2 million tons (around 42,000 tons/week) in MY 2006, compared to around 2 million tons (around 38,000 tons/week) in the previous year, in order to relieve the current sugar shortages (see report TH 6011). In addition, the Government approved an increase in wholesale prices and retail prices for sugar by 3 baht/kg (roughly U.S.\$ 4 cent/lb). The current domestic prices for sugar are 14.98 baht/kg. (roughly U.S.\$ 17 cents/lb) wholesale, and 16.50 baht/kg. (roughly U.S.\$ 19 cents/lb) retail. However, local consumers are still adversely affected by sugar shortages because these new controlled prices are still unattractive, as compared to current export prices. Also, the Government failed to regulate sugar millers to prioritize sugar sales domestically to meet weekly demand of 30,000 -40,000 tons, following the Thai Cane and Sugar Act (Article 46). Sugar millers reportedly supplied only around 50-60 percent of the regulated weekly sales and secured sugar stocks for relatively more attractive return from export markets. Moreover, the sugar market prices are currently 3-5 baht/kg. (roughly U.S.\$ 4-6 cents/lb) higher than the new controlled prices.

#### 2.3 Trade

## **Export Trade Matrix**

## Country Thailand Commodity Sugar, Centrifugal

|                      | J ,         | 9           |         |
|----------------------|-------------|-------------|---------|
| Time Period          | Jan<br>Dec. | Units:      | MTRV    |
| Exports for:         | 2004        |             | 2005    |
| U.S.                 | 14615       | U.S.        | 14615   |
| Others               |             | Others      |         |
| Indonesia            | 1327521     | Indonesia   | 1174650 |
| Japan                | 754013      | Japan       | 602690  |
| China                | 286468      | China       | 180809  |
| Malaysia             | 577117      | Malaysia    | 143548  |
| South Korea          | 228157      | South Korea | 168676  |
| Cambodia             | 195914      | Cambodia    | 229749  |
| Taiwan               | 418774      | Taiwan      | 136313  |
| Russia               | 76942       | Russia      | 47044   |
| Singapore            | 117294      | Singapore   | 41111   |
| Bangladesh           | 304502      | Bangladesh  | 69057   |
| Total for<br>Others  | 4286702     |             | 2793647 |
| Others not<br>Listed | 533481      |             | 281395  |
| Grand Total          | 4834798     | •           | 3089657 |

MY 2007 sugar exports are forecast to rebound in anticipation of more exportable supplies following bumper sugarcane crops. Sugar export prices will likely ease but remain high as the exportable supplies are expected to be far below the increasing foreign demand. Current export prices of raw sugar surged to U.S. \$ 17 cents/lb (roughly U.S.\$ 375/MT). MY 2006 sugar exports are revised upward due to more exportable supplies from the better-than-expected sugarcane crops. However, total sugar exports this year will likely drop for the third consecutive year due to drought-damaged sugarcane crops. Nevertheless, Thailand is expected to fulfill the U.S. tariff-rate quota, which increased to 25,154 metric tons (raw value), compared to normal TRQ of 14,743 metric tons (raw value) in order to maintain its historical performance despite less attractive prices, compared to current high world market prices. The increase in the U.S. TRQ reflected tight U.S. sugar supplies resulting from Hurricane Katrina damaged cane crops in CY 2005.

In CY 2005, Thai sugar exports continued to decline for the second consecutive year due to limited exportable supplies resulting from dry weather conditions. The tight supply situation caused a sharp increase in export prices of raw sugar and refined sugar, leading to a significant drop in Thai exports even including their regular markets in Asian countries.

Sugar imports in MY 2006 and MY 2007 will likely be insignificant due to sufficient available domestic supplies. The government import policy on sugar follows the WTO agreement, which is limited to a 65 percent tariff rate (roughly U.S.\$ 15.95 cents/kg.) under the quota of 13,760 tons. Meanwhile, the out-of-quota tariff is 94 percent (roughly U.S.\$ 23.06 cents/kg.).

#### 2.4 Stock

Despite anticipated recovery of sugarcane crops, the MY 2007 sugar stock will likely be steady at low levels following strong export demand. The sugar stock is forecast to remain at low levels even with continued bumper crops in MY 2008 because some sugarcane will likely be used for ethanol production.

## 2.5 Policy

The Government has approved an increase in domestic sugar prices by 3 baht/kg (roughly U.S.\$ 4 cents/lb) on March 7, 2006 in order to bridge the gap between controlled domestic prices and export prices that caused the sugar shortages since last quarter of CY 2005. Current domestic prices for sugar are at 14.98 baht/kg. (roughly U.S.\$ 19 cents/lb) wholesales, 16.50 baht/kg. (roughly U.S.\$ 19 cents/lb) retail for white sugar, and 17.50 baht/kg. (roughly U.S.\$ 20 cents/lb) for refined sugar. However, Thailand still faces domestic sugar shortages, as the new controlled domestic prices are still lower than the world market prices by around 2-3 baht/kg. (roughly U.S.\$ 3 cents/lb). As a result, white sugar is still aggressively smuggled into neighboring countries. Normally, legal border trade accounts for only about 10 percent of total sugar exports under license. Domestic sugar shortages will likely persist as long as world market prices of sugar remain higher than the controlled domestic prices. At the moment, the Government's approval of an increase in the controlled domestic prices is at least a success story for cane growers and sugar millers, who want to bail out the huge debt burden of the Cane and Sugar Fund to the Bank for Agriculture and Agricultural Cooperative (BAAC) of around 20 billion baht (roughly U.S.\$ 475 million). This debt accrued from the price support program during the past six years when market prices were lower than the minimum sugarcane prices, at the expense of Thai consumers.

## 3. Supplementary Tables

Table 1: Thailand's Planted Area of Sugarcane by Region

Unit: Hectare

| Region        | 1996/97   | 1997/98 | 1998/99 | 1999/2000 | 2000/01 | 2001/02   | 2002/03   | 2003/04   | 2004/05   |
|---------------|-----------|---------|---------|-----------|---------|-----------|-----------|-----------|-----------|
| Northeast     | 326,203   | 328,832 | 330,930 | 351,641   | 319,119 | 400,217   | 468,707   | 424,004   | 393,684   |
| North         | 239,239   | 222,212 | 211,523 | 206,863   | 189,010 | 219,415   | 235,030   | 291,499   | 291,006   |
| Central       | 444,743   | 392,536 | 375,078 | 379,347   | 368,894 | 391,537   | 435,596   | 405,910   | 382,159   |
| South         | -         | -       | -       | -         | -       | -         | -         | -         |           |
| Country Total | 1,010,184 | 943,580 | 917,532 | 937,852   | 877,023 | 1,011,169 | 1,139,289 | 1,121,413 | 1,066,849 |

Source: Office of Agricultural Economics, Ministry of Agriculture and Cooperatives

Table 2: Thailand's Sugarcane Production by Region

Unit: Metric Ton

| Region             | 1996/97                  | 1997/98                  | 1998/99    | 1999/2000  | 2000/01                  | 2001/02    | 2002/03                  | 2003/04    | 2004/05  |
|--------------------|--------------------------|--------------------------|------------|------------|--------------------------|------------|--------------------------|------------|----------|
| Northeast<br>North | 17,782,489<br>13,372,021 | 15,353,041<br>10,258,143 | -,,        | ,          | 18,153,103<br>10,391,682 |            | 30,997,608<br>14,992,069 |            |          |
| Central            | 25,239,428               | , ,                      |            |            |                          |            |                          | 23,776,254 | 17394386 |
| South              | -                        | -                        | -          | -          | -                        | -          | -                        | -          | -        |
| Country Total      | 56,393,938               | 43,465,535               | 50,331,567 | 52,812,842 | 49,562,886               | 60,012,977 | 74,258,521               | 64,973,805 | 49571874 |

Source: Office of Agricultural Economics, Ministry of Agriculture and Cooperatives

Table 3: Thailand's Sugarcane Yield by Region

Unit: Kilogram/Hectare

|                 |         |         | 1       |           |         | 1       |         |         |         |
|-----------------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|
| Region/Province | 1996/97 | 1997/98 | 1998/99 | 1999/2000 | 2000/01 | 2001/02 | 2002/03 | 2003/04 | 2004/05 |
| Northeast       | 54,514  | 46,690  | 56,989  | 61,583    | 56,885  | 60,018  | 66,134  | 57,202  | 46,668  |
| North           | 55,894  | 46,164  | 53,853  | 58,706    | 54,980  | 58,625  | 63,788  | 58,126  | 47,439  |
| Central         | 56,751  | 45,485  | 53,539  | 57,411    | 57,133  | 59,073  | 64,897  | 58,575  | 45,516  |
| South           | -       | -       | -       | -         | -       | -       | -       | -       |         |
| Country Total   | 55,825  | 46,065  | 54,855  | 59,232    | 56,572  | 59,350  | 65,180  | 57,939  | 46,466  |

Source: Office of Agricultural Economics, Ministry of Agriculture and Cooperatives

Table 4: Thailand's Sugar Utilization by Domestic Industry

Unit: Metric Ton

| Type of Industry            | 1995   | 1996         | 1997   | 1998   | 1999   | 2000   | 2001   | 2002   | 2003             | 2004   | 2005   |
|-----------------------------|--------|--------------|--------|--------|--------|--------|--------|--------|------------------|--------|--------|
| BEVERAGES                   |        |              |        |        |        |        |        |        |                  |        |        |
| Refined Sugar               | 90306  | 88708        | 98765  | 114100 | 113545 | 134105 | 145616 | 130704 | 107447           | 161009 | 201535 |
| White Sugar                 | 47547  | 46774        | 69982  | 79558  | 74962  | 118520 | 79513  | 89223  | 151661           | 103376 | 116388 |
| Sub-Total                   | 137853 | 135482       | 168747 | 193658 | 188507 | 252625 | 225129 | 219927 | 259108           | 264385 | 317923 |
| Sub - 10tal                 | 13/803 | 130462       | 108/4/ | 193000 | 18800/ | 202020 | 225129 | 219921 | 209106           | 204380 | 31/923 |
| CAKE & BREAD                |        |              |        |        |        |        |        |        |                  |        |        |
| Refined Sugar               | 44290  | 46066        | 57669  | 13600  | 11090  | 5582   | 4131   | 5273   | <del>699</del> 4 | 5729   | 7502   |
| White Sugar                 | 1413   | 1006         | 15641  | 8054   | 9365   | 7599   | 2517   | 3890   | 5655             | 8489   | 8897   |
| Sub - Total                 | 45703  | 47072        | 73310  | 21654  | 20455  | 13181  | 6648   | 9163   | 12649            | 14218  | 16399  |
| ALCOHOL BASE DRINK          |        |              |        |        |        |        |        |        |                  |        |        |
| Refined Sugar               | 1917   | 2975         | nil              | nil    | nil    |
| White Sugar                 | 1917   | 2973<br>1467 | nil              | nil    | nil    |
| vvinie sugai<br>Sub - Total | 1930   | 4442         | 1111   | 1111   | 0      | 1111   | 1111   | 111    | 1 111            | 1111   | 1111   |
| Sub - 10tal                 | 1930   | 4442         | Ų      | ·      | U      | Ų      | ·      | U      | U                | Ų      | Ų      |
| FRUIT & FOOD PRODUCTS       |        |              |        |        |        |        |        |        |                  |        |        |
| Refined Sugar               | 23999  | 26634        | 36110  | 66547  | 82092  | 57831  | 56646  | 54368  | 63910            | 41759  | 71324  |
| White Supar                 | 15937  | 20336        | 32040  | 145579 | 164462 | 135553 | 84914  | 103057 | 106210           | 87453  | 118672 |
| Sub-Total                   | 39936  | 46970        | 68150  | 212126 | 246554 | 193384 | 141560 | 157425 | 170120           | 129302 | 189996 |
|                             |        |              |        |        |        |        |        |        |                  |        |        |
| DAIRYPRODUCTS               |        |              |        |        |        |        |        |        |                  |        |        |
| Refined Sugar               | 31462  | 32239        | 35069  | 34310  | 31330  | 15874  | 16218  | 16790  | 11094            | 10638  | 18131  |
| White Sugar                 | 42419  | 47686        | 63134  | 115761 | 109301 | 149528 | 112715 | 115520 | 115917           | 120015 | 126350 |
| Sub-Total                   | 73881  | 79925        | 98203  | 150071 | 140631 | 165402 | 128933 | 132310 | 127011           | 130653 | 144481 |
| CONFECTIONARY PRODUCTS      |        |              |        |        |        |        |        |        |                  |        |        |
|                             | 1001   | 1829         | 3882   | 4047   | 5593   | 3982   | 3395   | 4604   | 4889             | 3973   | 4599   |
| Refined Sugar               |        |              |        |        |        |        |        |        |                  |        |        |
| White Sugar                 | 2818   | 5501         | 4731   | 18567  | 16071  | 16526  | 15294  | 17255  | 14694            | 20751  | 29929  |
| Sub-Total                   | 3819   | 7330         | 8613   | 22614  | 21664  | 20508  | 18689  | 21859  | 19583            | 24724  | 34528  |
| PHARMACEUTICAL PRODUCTS     |        |              |        |        |        |        |        |        |                  |        |        |
| &MISCELLANEOUS              |        |              |        |        |        |        |        |        |                  |        |        |
| Refined Sugar               | 35542  | 53295        | 77580  | 102944 | 84907  | 38452  | 30097  | 22254  | 21975            | 16954  | 26603  |
| White Sugar                 | 1417   | 1044         | 2016   | 3962   | 3624   | 11933  | 7201   | 2914   | 5290             | 5889   | 5322   |
| Sub-Total                   | 36959  | 54339        | 79596  | 106906 | 88531  | 50385  | 37298  | 25168  | 27265            | 22843  | 31925  |
| JUD - TOTAL                 | 30909  | 24339        | 19090  | IUDYUD | ಹಯಗ    | 50385  | 31290  | ∠2168  | 21200            | 22843  | 31923  |

Source: Production and Distribution Administration Center, Office of Cane and Sugar Board

Table 5: Thailand's Average Prices of Domestic Plantation White Sugar and Sugarcane

| Calendar | Plantati       | on White Sugar | Sug       | arcane    |
|----------|----------------|----------------|-----------|-----------|
| Year     | Wholesale      | Retail         | Initial   | Actual    |
|          | (Baht/100 kg.) | (Baht/kg.)     | (Baht/met | tric ton) |
| 1980     | 1,011          | 11.65          | Nil       | 650       |
| 1981     | 1,019          | 11.51          | Nil       | 510       |
| 1982     | 1,075          | 11.94          | 350       | 381       |
| 1983     | 1,091          | 12.00          | 421       | 421       |
| 1984     | 1,162          | 12.00          | 395       | 380       |
| 1985     | 1,097          | 12.00          | 330       | 388       |
| 1986     | 1,099          | 12.00          | 375       | 408       |
| 1987     | 1,097          | 12.00          | 405       | 462       |
| 1988     | 1,098          | 12.00          | 450       | 527       |
| 1989     | 1,098          | 12.00          | 460       | 596       |
| 1990     | 1,099          | 12.00          | 460       | 442       |
| 1991     | 1,099          | 12.00          | 399       | 480       |
| 1992     | 1,099          | 12.00          | 420       | 516       |
| 1993     | 1,099          | 12.00          | 490       | 533       |
| 1994     | 1,099          | 12.00          | 520       | 569       |
| 1995     | 1,099          | 12.00          | 500       | 538       |
| 1996     | 1,099          | 12.00          | 500       | 561       |
| 1997     | 1,099          | 12.00          | 600       | 703       |
| 1998     | 1,100          | 12.50          | 500       | 485       |
| 1999     | 1,100          | 12.50          | 450       | 478       |
| 2000     | 1,177          | 12.50          | 600       | 693       |
| 2001     | 1,177          | 13.25          | 530       | 520       |
| 2002     | 1,177          | 13.25          | 500       | 531       |
| 2003     | 1,177          | 13.25          | 465       | 504       |
| 2004     | 1,177          | 13.25          | 620       | 658       |
| 2005     | 1,177          | 13.25          | 800       | NA        |
| 2006     | 1,498          | 16.50          | NA        | NA        |

## Note:

- \* The revenue sharing system of 70:30 to cane planters and millers started in 1982/83 when the initial cane price began to be quoted.
- \* The purchasing cane based on C.C.S. system starts in 1993/94 crushing season with the standard quality of cane at 10 C.C.S.
- \* Average final cane price has been split into different assessments for different regions since 1996/97.
- \* The retail price of plantation white sugar raised to 13.25 baht/kg in Jun. 2, 2000.
- \* Wholesale prices and retail prices of plantation white sugar raised to 1,498 baht/kg and 16.50 baht/kg, respectively, in Mar. 7, 2006.

Table 6: Thailand's Average Final Price of Sugarcane by Zone

| Zone      | Number of<br>Sugar Mills |         | Sugarcane Prices (Baht/Ton) at 10 C.C. |         |         |         |         |         |         |         |  |  |  |
|-----------|--------------------------|---------|--|---------|---------|---------|---------|---------|---------|---------|--|--|--|
|           |                          | 1996/97 | 1997/98                                | 1998/99 | 1999/00 | 2000/01 | 2001/02 | 2002/03 | 2003/04 | 2004/05 |  |  |  |
| North 1   | 4                        | 572.12  | 728.98                                 | 495.15  | 464.63  | 678.10  | 531.19  | 539.14  | 513.68  | 672.78  |  |  |  |
| North 2   | 3                        | 535.57  | 693.97                                 | 449.2   | 464.63  | 678.10  | 501.89  | 518.30  | 483.34  | 647.77  |  |  |  |
| North 3   | 1                        | 526.47  | 654.96                                 | 459.43  | 464.63  | 678.10  | 501.89  | 518.30  | 483.34  | 647.77  |  |  |  |
| North 4   | 1                        | 541.77  | 698.18                                 | 483.43  | 464.63  | 678.10  | 529.99  | 531.76  | 488.13  | 655.83  |  |  |  |
| North 5   | 1                        | 526.25  | 692.21                                 | 454.78  | 464.63  | 678.10  | 529.99  | 531.76  | 488.13  | 655.83  |  |  |  |
| Central 1 | 1                        | 514.65  | 650.69                                 | 478.49  | 464.63  | 678.10  | 529.99  | 531.76  | 488.13  | 655.83  |  |  |  |
| Central 2 | 1                        | 551.82  | 700.16                                 | 499.91  | 464.63  | 678.10  | 529.99  | 531.76  | 488.13  | 655.83  |  |  |  |
| Central 3 | 2                        | 564.93  | 675.04                                 | 464.7   | 464.63  | 706.85  | 514.64  | 532.63  | 509.52  | 646.16  |  |  |  |
| Central 4 | 14                       | 567.05  | 701.69                                 | 493.44  | 483.86  | 633.00  | 530.46  | 507.25  | 484.13  | 635.37  |  |  |  |
| Central 5 | 1                        | 538.81  | 640.02                                 | 478.44  | 486.23  | 680.00  | 548.43  | 547.17  | 524.54  | 666.59  |  |  |  |
| East      | 5                        | 556.66  | 683.82                                 | 488.28  | 490.80  | 697.38  | 541.30  | 544.82  | 510.55  | 655.31  |  |  |  |
| Northeast | 12                       | 575.29  | 715.26                                 | 488.37  | 482.28  | 685.04  | 537.71  | 529.16  | 511.95  | 668.17  |  |  |  |

Note: Average Final Prices of Sugarcane by Zone was firstly applied in 1996/97.

Cane price is divided into five zones in 1999/00 crushing season.

Cane price is divided into five zones in 1999/00 crushing season. North 1-5 share

the same price in zone 1 of 10 mills plus 4 mills in Central 1-3; Central 4 cover 14  $\,$ 

mills in zone 2; Central 5 cover only one mill in zone 3 while there has been no changes in the East (zone 4) and Northeast (zone 5).

Average prices of cane are re-arranged again in 2000/01 for 6 zones:

Zone 1 covers 14 mills;

Zone 2 covers 13 mills;

Zone 3 covers 1 mill which is Suphanburi sugar mill in central plain;

Zone 4 covers 1 mills in central plain;

Zone 5 covers 5 mills in the East;

Zone 6 covers 12 mills in the Northeast.

Table 7: Thailand's Monthly Export Price (FOB) for Raw Sugar (Baht/Ton)

| Month                             | 1995  | 1996  | 1997  | 1998  | 1999  | 2000  | 2001  | 2002  | 2003  | 2004  | 2005  |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| January                           | 7059  | 6652  | 6700  | 13936 | 6931  | 4917  | 9934  | 6820  | 6340  | 5588  | 6763  |
| February                          | 7363  | 6796  | 6679  | 11263 | 6923  | 4973  | 9713  | 6910  | 7014  | 5342  | 7984  |
| March                             | 7127  | 6595  | 6580  | 10826 | 6828  | 4569  | 9102  | 6269  | 7101  | 5598  | 8318  |
| April                             | 7235  | 6487  | 6634  | 10372 | 6128  | 4763  | 9321  | 6408  | 7045  | 5590  | 8291  |
| May                               | 7289  | 6510  | 6598  | 10306 | 5506  | 5293  | 9546  | 6194  | 6948  | 6092  | 8848  |
| June                              | 7746  | 7019  | 6711  | 10459 | 5173  | 5912  | 9428  | 6323  | 7350  | 6665  | 8558  |
| July                              | 7697  | 7055  | 8081  | 11400 | 5288  | 5061  | 9542  | 6442  | 6464  | 6426  | 8699  |
| August                            | 7661  | 7574  | 8388  | 10514 | 6146  | 7458  | 10044 | 6504  | 6653  | 6667  | 8768  |
| September                         | 7839  | 7537  | 9254  | 9013  | 5242  | 7535  | 9617  | 6782  | 6789  | 7151  | 8832  |
| October                           | 7738  | 7954  | 9780  | 7728  | 5636  | 8391  | 9228  | 6702  | 6427  | 6633  | 8889  |
| November                          | 7431  | 7384  | 9676  | 7839  | 5558  | 9602  | 7514  | 6330  | 6444  | 7127  | 8746  |
| December                          | 7221  | 6347  | 12197 | 10109 | 4873  | 8041  | 7518  | 5808  | 6292  | 6302  | 8385  |
| Average                           | 7439  | 6686  | 7195  | 10361 | 5842  | 5863  | 9368  | 6415  | 6891  | 6249  | 8561  |
| Avg. Exchange rates (Baht/U.S.\$) | 24.89 | 25.32 | 31.32 | 41.31 | 37.79 | 40.11 | 44.43 | 42.96 | 41.48 | 40.22 | 40.22 |

Table 8: Thailand's Monthly Export prices (FOB) for Plantation White Sugar (Baht/Ton)

| Month                                | 1995  | 1996  | 1997  | 1998  | 1999  | 2000  | 2001  | 2002  | 2003  | 2004  | 2005  |
|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| January                              | 7528  | 7842  | 7599  | 15342 | 8698  | 6453  | 10245 | 8851  | 8582  | 7189  | 9549  |
| February                             | 7674  | 7730  | 7916  | 13781 | 7038  | 6161  | 10227 | 8578  | 8129  | 6965  | 9923  |
| March                                | 8100  | 7576  | 8017  | 12618 | 8731  | 6056  | 9927  | 8142  | 8362  | 7488  | 10063 |
| April                                | 8443  | 7902  | 7986  | 11700 | 8084  | 6321  | 9791  | 8324  | 8530  | 7506  | 10251 |
| May                                  | 8065  | 7835  | 8333  | 11660 | 7701  | 6868  | 9972  | 7971  | 8554  | 7566  | 10357 |
| June                                 | 8583  | 8270  | 7997  | 11731 | 7135  | 6698  | 10309 | 7714  | 8318  | 8108  | 10443 |
| July                                 | 8619  | 7994  | 8703  | 11153 | 6894  | 7220  | 10794 | 8182  | 7977  | 7716  | 10929 |
| August                               | 8673  | 7959  | 10303 | 11482 | 7497  | 7421  | 11033 | 7742  | 7914  | 8341  | 11186 |
| September                            | 8490  | 8385  | 10431 | 11217 | 6928  | 7904  | 10897 | 8393  | 7778  | 8762  | 10806 |
| October                              | 8304  | 8980  | 11193 | 10498 | 7673  | 8943  | 10091 | 8751  | 7068  | 9996  | 11475 |
| November                             | 8301  | 8799  | 12248 | 7358  | 7300  | 9617  | 10359 | 9046  | 7592  | 9319  | 11399 |
| December                             | 9308  | 8601  | 14905 | 9071  | 7497  | 9706  | 10658 | 8830  | 7696  | 9569  | 11236 |
| Average                              | 8335  | 7882  | 8777  | 12527 | 7632  | 7283  | 10260 | 8262  | 8115  | 7983  | 10378 |
| Avg. Exchange rates<br>(Baht/U.S.\$) | 24.89 | 25.32 | 31.32 | 41.31 | 37.79 | 40.11 | 44.43 | 42.96 | 41.48 | 40.22 | 40.22 |

Table 9: Thailand's Annual Raw Sugar Exports (MTRV)

| Destination   | 1995    | 1996    | 1997    | 1998    | 1999    | 2000    | 2001    | 2002    | 2003    | 2004    | 2005    |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| China         | 1236453 | 500526  | 233932  | 85609   | 33858   | 90801   | 346979  | 168982  | 180567  | 252455  | 175529  |
| Congo         | -       | -       | -       | -       | -       | 10260   | -       | _       | -       | -       |         |
| Indonesia     | -       | 54378   | 160005  | 25804   | 341700  | 447543  | 402189  | 387971  | 373106  | 463426  | 423816  |
| Iran          | -       | 28728   | -       | -       | -       | -       | -       | 30780   | -       | -       | -       |
| Japan         | 530636  | 737457  | 703729  | 697216  | 529302  | 746735  | 690220  | 383685  | 565822  | 751129  | 602690  |
| North Korea   | -       | -       | -       | -       | 3386    | 14056   | -       | 6378    | 62877   | 41      | 2560    |
| South Korea   | 378943  | 623209  | 710402  | 163560  | 205301  | 318056  | 235919  | 110044  | 175976  | 144877  | 87423   |
| Malaysia      | 291891  | 367924  | 382698  | 84251   | 127470  | 233107  | 247957  | 240636  | 242141  | 245564  | 64820   |
| Mozambique    | 13338   | 2052    | 23598   | 15185   | -       | -       | -       | -       | -       | -       | -       |
| Philippines   | 113917  | 223843  | 11286   | 134714  | 117547  | 21546   | -       | 3078    | _       | 286     | -       |
| Romania       | -       | 25650   | -       | -       | 12312   | _       | -       | -       | 41040   | -       | -       |
| Russia        | 42169   | 44118   | 85158   | 77976   | 469087  | 291589  | 73955   | 484253  | 696757  | 66279   | 46170   |
| Singapore     | 8208    | 83106   | 43092   | 7182    | 17750   | 8161    | 26081   | 52644   | 2786    | 429     | -       |
| Sri Lanka     | 73564   | 57559   | 47093   | 12312   | 78007   | 73462   | 52839   | 64384   | 52711   | 55149   | 9593    |
| Tanzania      | 20520   | 35223   | 2052    | 18981   | -       | 29959   | 47145   | 33006   | 10012   | 10841   | 208     |
| Taiwan        | -       | -       | -       | -       | -       | 49248   | 71795   | 102794  | 201234  | 313528  | 75544   |
| Ukraine       | 39769   | 14364   | 28728   | -       | -       | -       | -       | -       | -       | -       | -       |
| United States | 16539   | 32740   | 28284   | 21082   | 15111   | 14615   | 11597   | 14614   | 14615   | 14615   | 14615   |
| UAE           | -       | 72254   | 34474   | 6156    | -       | -       | -       | 45785   | -       | -       | -       |
| Vietnam       | 44118   | 15390   | 31550   | -       | 14334   | -       | 16416   | -       | -       | -       | 70179   |
| Others        | 43495   | 41389   | 38569   | 73027   | 9537    | 5870    | 15942   | 20075   | 72779   | 23333   | 18172   |
| Total         | 2853560 | 2959910 | 2564650 | 1423055 | 1974702 | 2355008 | 2239034 | 2149108 | 2692423 | 2341952 | 1591319 |

Table 10: Thailand's Annual White and Refined Sugar Exports (MTRV)

| Destination  | 1995   | 1996    | 1997    | 1998   | 1999    | 2000    | 2001    | 2002    | 2003    | 2004    | 2005    |
|--------------|--------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| Bangladesh   | -      | -       | 25358   | -      | 41555   | 115759  | 36484   | 31717   | 200676  | 304502  | 55001   |
| Brunei       | -      | 3210    | -       | 3210   | 4280    | 2140    | 5374    | 7490    | 1831    | 6233    | 6202    |
| Burma        | 1035   | 5175    | -       | -      | 3601    | 47326   | 362     | 80      | 1031    | 7023    | 1800    |
| Cambodia     | 22276  | 38411   | 55430   | 62873  | 157702  | 77029   | 178405  | 244344  | 112394  | 195545  | 229749  |
| China        | 225499 | -       | 2070    | 3780   | -       | 4850    | 64751   | 13954   | 27640   | 34013   | 5280    |
| India        | -      | -       | 25470   | 13973  | 281555  | 8280    | -       | -       | 348     | 803     | -       |
| Indonesia    | 332064 | 632468  | 1133846 | 752807 | 493278  | 834949  | 399476  | 616165  | 903304  | 864095  | 750834  |
| Iran         | 112350 | 329560  | 118580  | -      | 74921   | 6624    | _       | 63368   | 14445   | -       | -       |
| Jordan       | -      | 44380   | -       | -      | 23214   | -       | 4280    | 55961   | 46042   | 65698   | 257     |
| North Korea  | 8073   | 20364   | -       | 28134  | 52892   | 65114   | 35713   | 46073   | 81045   | 84073   | 89581   |
| South Korea  | 2277   | -       | -       | -      | 65      | 3815    | 20234   | 26300   | 73497   | 83280   | 81253   |
| Kenya        | -      | 22819   | 15525   | 2381   | -       | 2795    | _       | 1074    | 4693    | 598     | -       |
| Laos         | 12295  | 11412   | 16849   | 14973  | 20445   | 17334   | 39310   | 27899   | 23947   | 27887   | 41657   |
| Malaysia     | -      | -       | -       | 3105   | 11980   | 48738   | 87055   | 129248  | 206155  | 331552  | 78727   |
| Maldives     | _      | 3105    | -       | -      | _       | 2070    | -       | _       | _       | -       | 264     |
| Pakistan     | _      | 29725   | 92616   | -      | _       | 148355  | -       | _       | _       | -       | 15774   |
| Philippines  | 77401  | 126151  | -       | 21444  | 5843    | 42350   | 6596    | 31168   | 45878   | 51193   | 18427   |
| Russia       | 2675   | 2140    | -       | -      | -       | -       | -       | 6793    | 17129   | 10664   | 874     |
| Saudi Arabia | 42881  | 34890   | -       | -      | _       | -       | -       | 4280    | 5350    | -       | -       |
| Singapore    | 4863   | 8455    | 15502   | 6111   | 33768   | 16945   | 37492   | 105910  | 75356   | 116864  | 41111   |
| Somalia      | 3726   | 4280    | -       | -      | 2070    | 59597   | 69138   | 75555   | 61692   | 21568   | -       |
| Sri Lanka    | 20314  | 34007   | 32245   | 6210   | 24737   | 115304  | 5175    | 40081   | 22455   | 24430   | 6210    |
| Syria        | -      | 27820   | -       | -      | -       | -       | -       | 119379  | 234129  | -       | -       |
| Tanzania     | -      | 10455   | 29187   | 26703  | 6210    | 6893    | 5175    | 23039   | 25351   | 10352   | 1190    |
| UAE          | 22656  | 59449   | 25680   | -      | 4165    | -       | -       | 3210    | 5280    | 15095   | 129     |
| Vietnam      | 68116  | 2087    | 19053   | 8280   | -       | 471     | 49740   | -       | -       | 4347    | 2390    |
| Yemen        | 8570   | 89658   | -       | -      | 60379   | 217073  | 16560   | 52890   | 167254  | 26910   | -       |
| Others       | 6229   | 28005   | 34985   | 9212   | 56309   | 8585    | 10405   | 283349  | 330120  | 206120  | 71627   |
| Total        | 973300 | 1568026 | 1642396 | 963196 | 1358969 | 1852396 | 1071725 | 2009327 | 2687042 | 2492845 | 1498337 |

Table 11: Thailand's Average Quality of Cane Measured by C.C.S.

| Year       | North | Central | East  | Northeast | Average       |
|------------|-------|---------|-------|-----------|---------------|
| 1077/70    | 0.00  | 0.45    | 10.00 | 11 /      | 0.05          |
| 1977/78    | 9.99  | 9.65    | 10.09 | 11.6      | 9.85          |
| 1978/79    | 10.2  | 10.47   | 10.23 | 11.22     | 10.38<br>9.74 |
| 1979/80    | 10.3  | 9.43    | 10.82 | 10.63     |               |
| 1980/81    | 9.58  | 9.49    | 9.72  | 10.91     | 9.63          |
| 1981/82    | 9.85  | 9.94    | 9.97  | 10.58     | 9.97          |
| 1982/83    | 10.01 | 10.31   | 10.01 | 11.33     | 10.32         |
| 1983/84    | 9.95  | 10.45   | 10.12 | 11.88     | 10.47         |
| 1984/85    | 10.57 | 10.26   | 10.77 | 11.87     | 10.59         |
| 1985/86    | 10.27 | 10.8    | 10.59 | 11.79     | 10.82         |
| 1986/87    | 10.65 | 10.53   | 10.49 | 11.6      | 10.66         |
| 1987/88    | 9.97  | 9.67    | 9.58  | 11.43     | 9.98          |
| 1988/89    | 10.66 | 10.63   | 10.67 | 11.67     | 10.8          |
| 1989/90    | 10.46 | 10.18   | 10.44 | 11.23     | 10.46         |
| 1990/91    | 10.8  | 9.79    | 9.92  | 10.95     | 10.18         |
| 1991/92    | 11.22 | 10.54   | 10.65 | 11.63     | 10.91         |
| 1992/93 1/ | 11.66 | 11.05   | 11.9  | 12.58     | 11.6          |
| 1992/93    | 11.74 | 11.1    | 11.79 | 12.4      | 11.58         |
| 1993/94    | 11.35 | 10.98   | 11.09 | 11.95     | 11.3          |
| 1994/95    | 11.87 | 11.45   | 11.45 | 12.15     | 11.76         |
| 1995/96    | 11.37 | 11.61   | 11.69 | 12.47     | 11.84         |
| 1996/97    | 11.36 | 11.54   | 11.39 | 12.52     | 11.79         |
| 1997/98    | 10.98 | 10.2    | 10.73 | 11.89     | 11.11         |
| 1998/99    | 11.32 | 10.97   | 11.15 | 12.56     | 11.66         |
| 1999/00    | 11.41 | 11.07   | 11.29 | 12.16     | 11.7          |
| 2000/01    | 11.61 | 11.26   | 11.25 | 12.01     | 11.62         |
| 2001/02    | 11.61 | 11.33   | 11.32 | 11.15     | 11.78         |
| 2002/03    | 11.09 | 10.53   | 10.56 | 11.79     | 11.17         |
| 2003/04    | 12.21 | 11.64   | 11.31 | 12.59     | 12.11         |
| 2004/05    | 12.39 | 11.52   | 11.37 | 12.76     | 12.2          |

<sup>1/</sup> The first year that the Office of the Cane & Sugar Board did the research and reported C.C.S. of cane (previously done by the sugar mills).

Table 12: Thailand's Business Tax Rates for Cane and Sugar

Unit: Percent

| Year    | Sugarcane | Business tax    | Export of Raw   | Local Trade    |  |  |
|---------|-----------|-----------------|-----------------|----------------|--|--|
|         | J. J. II  | applied for     | and White Sugar | of White Sugar |  |  |
|         |           | Exp & Local Trd | (Actual Colle   |                |  |  |
|         |           | LAP & LOCAL ITU | (Actual Colle   | cted rakes)    |  |  |
| 1976/77 |           | 7.7             | 1.65            | 7.7            |  |  |
| 1977/78 |           | 7.7             | 1.65            | 7.7            |  |  |
| 1978/79 |           | 7.7             |                 | 7.7            |  |  |
| 1979/80 | 0.75      | 7.7             |                 | 7.7            |  |  |
| 1980/81 | 0.75      | 7.7             | 3.3             | 7.7            |  |  |
| 1981/82 | 0.75      | 7.7             | 1.65            | 7.7            |  |  |
| 1982/83 | 0.75      | 7.7             | 1.65            | 7.7            |  |  |
| 1983/84 | 0.75      | 9.9             | 1.65            | 3.3            |  |  |
| 1984/85 | 0.75      | 9.9             | 1.65            | 3.3            |  |  |
| 1985/86 |           | 9.9             |                 |                |  |  |
| 1986/87 |           | 9.9             |                 |                |  |  |
| 1987/88 | 0.75      | 9.9             |                 | 1.65           |  |  |
| 1988/89 | 0.75      | 9.9             |                 | 1.65           |  |  |
| 1989/90 | 0.75      | 9.9             |                 | 1.65           |  |  |
| 1990/91 | 0.75      | 9.9             | 4.4             | 9.9            |  |  |
| 1991/92 | 0.75      | 7.0 1/          |                 | 7.0 1/         |  |  |
| 1992/93 | 0.75      | 0.0 1/          |                 | 7.0 1/         |  |  |
| 1993/94 | 0.75      | 0.0 1/          |                 | 7.0 1/         |  |  |
| 1994/95 | 0.75      | 0.0 1/          |                 | 7.0 1/         |  |  |
| 1995/96 | 0.75      | 0.0 1/          |                 | 7.0 1/         |  |  |
| 1996/97 | 0.75      | 0.0 1/          |                 | 7.0 1/         |  |  |
| 1997/98 | 0.75      | 0.0 1/          |                 | 10.0 2/        |  |  |
| 1998/99 | 0.75      | 0.0 1/          |                 | 7.0 3/         |  |  |
| 1999/00 | 0.75      | 0.0 1/          |                 | 7.0 3/         |  |  |
| 2000/01 | 0.75      | 0.0 1/          |                 | 7.0 3/         |  |  |
| 2001/02 | 0.75      | 0.0 1/          |                 | 7.0 3/         |  |  |
| 2002/03 | 0.75      | 0.0 1/          |                 | 7.0 3/         |  |  |
| 2003/04 | 0.75      | 0.0 1/          |                 | 7.0 3/         |  |  |
| 2004/05 | 0.75      | 0.0 1/          |                 | 7.0 3/         |  |  |

<sup>1/</sup> The value added tax of 7 percent became effective on January 1, 1992 and applied only to domestic sales, it does not apply to exports.

Source: Office of the Cane and Sugar Board, Ministry of Industry.

End of Report.

<sup>2/</sup> The government revised the value added tax from 7 to 10 percent on August 10, 1997.

<sup>3/</sup> The value added tax has brought back to 7 percent since Apr 1, 1999.